

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-27. (Canceled)

28. (New) A sputtering apparatus for manufacturing a photomask blank comprising:

a sputtering target whose surface is directed downwards with respect to a gravity direction;

a substrate holder for holding a substrate whose surface is directed upwards with respect to a gravity direction; and

a shielding plate for shielding a peripheral edge of the substrate to prevent film deposition on the peripheral edge, wherein said shielding plate is movable so that the shielding plate is removed when the substrate is placed and said shield is replaced with a clearance between the surface of the substrate and the shielding plate for film deposition.

29. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank comprising:

a vacuum tank;

a sputtering target whose surface is directed downwards with respect to a gravity direction;

a magnetron cathode with the target attached thereto;

a substrate holder disposed opposite to said target; and

a shield disposed on an inner wall of a vacuum tank inside the vacuum tank,

wherein said magnetron cathode is a whole-surface erosion cathode, and said shield has a

shape such that a position on the shield in the vicinity of the target and the target is of a sufficiently long distance so as to prevent a relative film formation speed on the shield from being larger than that on the substrate.

30. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

further comprising a shield for the non-sputtered area on the target.

31. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

wherein said target has a non-sputtered portion whose surface is roughened.

32. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 31,

wherein said non-sputtered portion is an end surface.

33. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

wherein the target has a curved corner surface.

34. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

wherein the shield is kept at a constant temperature.

35. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

wherein said shield has a curved corner surface.

36. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

wherein said shield has a surface which is roughened.

37. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

further comprising a backing plate to which the target is to be attached,

wherein the surface of the backing plate is roughened.

38. (New) A DC magnetron sputtering apparatus for manufacturing a photomask blank according to claim 29,

further comprising a shield plate for preventing the film from being formed on a peripheral portion of the substrate.